

The Center of Plant Systems Biology and Biotechnology (CPSBB) in Plovdiv, Bulgaria, offers the following position:

PhD student in Plant Biotechnology, (First Stage Researcher – R1), Professional field 5.11 Biotechnologies;

Topic: Decoding Natural Variation in Tomato and Pepper Metabolomes to Enhance Postharvest Quality, Fruit Traits, and Disease Resistance.

Occupation: Full-time

Period: Fixed-term contract

Apply no later than: January 15, 2025

CPSBB, a plant science Center of Excellence in Plovdiv, Bulgaria, seeks a motivated PhD student to work on the project NatGenCrop “Employing the natural variation to improve the nutritional properties and stress tolerance in vegetable crops” (<https://natgencrop.com/>). The project aims to enhance nutritional properties and stress tolerance in tomatoes and peppers by exploring genetic and phenotypic variations. The research will use genetics and genomics approaches like GWAS and QTL to identify and characterize genes linked to high yield and stress tolerance. The project also examines the impact of abiotic stress on fruit quality through metabolic and transcriptomic analyses. Within the frame of NatGenCrop, the PhD student will focus on utilizing a metabolomics approach to investigate the natural variation in tomato and pepper fruit metabolomes, with the goal of identifying key metabolites linked to postharvest quality, flavour, texture, and disease resistance. High-throughput mass spectrometry (MS) will be used to profile both primary (sugars, organic and amino acids) and secondary (flavonoids, phenolics, terpenoids, alkaloids) metabolites across a range of accessions. By correlating metabolic profiles with genetic data, the PhD student will contribute to uncovering genetic loci associated with favourable postharvest traits, shelf life, and pathogen resistance. Special emphasis will be placed on understanding how stress-induced metabolic changes affect fruit attributes such as flavor, texture, and resistance to pathogens in tomato and pepper.

Work place:

The workplace is CPSBB in Plovdiv, Bulgaria (www.cpsbb.eu), a new plant science institute with a modern campus and a growing international reputation. Plovdiv, one of Europe’s oldest cities with roots dating to the 6th millennium BC, is now Bulgaria’s second-largest city and a key industrial and academic hub, home to six universities and vibrant cultural life.

Job Requirements:

- Master’s degree in biology, biochemistry, or a related field.
- Strong background in bioinformatics and metabolomics, with hands-on experience in LC-MS and GC-MS data analysis.
- Experience working with primary and specialized plant metabolites or protein biochemistry.
- Proficiency in analytical software such as MZmine, R, MS-DIAL, and Geneious.
- Excellent English presentation and communication skills (written and oral)

Main responsibilities:

- Conduct cutting-edge plant science research related to the NatGenCrop project.
- Participation in other project events and activities.

We offer:

- Gross salary of 2800 BGN, including social contributions from the employer and the employee.
- Career development in an internationally competitive research institution.
- Work in a friendly team on a large project funded by the European Commission.
- CPSBB is an equal opportunity employer.

Applicants interested in the position should send the following documents until 15 January 2025:

- Application letter including a statement about why you are applying for this position.
 - CV including a list of published and accepted publications (if any).
 - Contact information, including email addresses, of at least one reference person.
- Send your application documents as a single PDF file to secretary@cpsbb.eu